Pp. 503-554. *In*: Proceedings of the First International Marine Biological Workshop: the flora and fauna of Hong Kong and Southern China, Hong Kong, Vol. I (Eds: Morton, B.S. & C.X. Tseng). Hong Kong University Press, Hong Kong.

KRISHNAN, R., M.R. CHANDRAN & T.K. RENGANATHAN (1989): On the occurrence of four species of ascidians new to Indian waters. *Geobios new Reports 8*: 70-74.

LESUEUR, C.A. (1823): Descriptions of several new species of Ascidia. *J. Acad. nat. Sci. Philad. 3*: 2-8.

MICHAELSEN, W. (1918): Die Ptychobranchen and Diktyobranchen Ascidien des westlichen Indischen Ozeans. *Jb. hamb. wiss. Anst. 35 (2)*: 1-71.

MILLAR, R.H. (1966): Ascidiacea. Port Phillip Survey. *Mem. natn. Mus. Vict. 27*: 357-375.

REDIKORZEV, V. (1916): Faune de la Russe et des pays limitrophes fondee principalment sur les collections du musee zoologique de I' Academie Imperiale des Science Petrograd. Tunicies (Tunicata). *Fauna Rossi 1*: 1-336.

RENGANATHAN, T.K. (1981): New record of a simple ascidian *Styela bicolor* (Sluiter 1887) from the Tuticorin Coast of India. *Curr. Sci. 50*: 1008.

TOKIOKA, T. (1960): Contributions to Japanese ascidian fauna XVIII. Ascidians found in the benthonic samples dredged in the Ariake Sea. 1957-58. *Publs Seto. Mar. Biol. Lab. 8*: 205-221.

TOKIOKA, T. & T. NISHIKAWA (1975): Contributions to the Japanese ascidian fauna XXVII. Some ascidians from Okinawa with notes on a small collection from Hong Kong. *Publs. Seto. Mar. Biol. Lab. 22*: 325-341.

TRAUSTEDT, M.P.A. (1883a): Vestindiske Ascidiae Simplices. Anden Afdeling. Molgulidae og Cynthiadae. *Vidensk. meddr dansk naturh. Foren. 1882*: 108-136.

TRAUSTEDT, M.P.A. (1883b): Die einfachen Ascidien des Golfes von Neapel. *Mitt. Zool. Stat. Neapel 4*: 448-488.

TRAUSTEDT, M.P.A. (1885): Ascidiae simplices fra det Stille Ocean. *Vidensk. meddr dansk naturh. Foren. 1884*: 1-160.

VAN NAME, W.G. (1912): Simple ascidians of the coasts of New England and neighbouring British Provinces. *Proc. Boston. Soc. nat. Hist. 34*: 439-619.

VAN NAME, W.G. (1921): Ascidians of the West Indian region and southeastern United States. *Bull. Am. Mus. nat. Hist. 44*: 283-494.

VAN NAME, W.G. (1930): The ascidians of Porto Rico and Virgin Islands. *Scient. Surv. P. Rico 10*: 403 -512.

VAN NAME, W.G. (1945): The North and South American ascidian. *Bull. Am. Mus. nat. Hist. 84*: 1-476.

19. SPIRALLING WHITEFLY *ALEURODICUS DISPERSUS* RUSSELL (HOMOPTERA: ALEYRODIDAE) INVADES ANDAMANS[1]

G. SHYAM PRASAD[2,3], S. BHAGAT[2,4] AND V. JAYAKUMAR[2,5]

[1]Accepted April 23, 2007
[2]Central Agricultural Research Institute, Port Blair, Andaman and Nicobar Islands 744 101, India.
[3]Current Address: National Research Centre for Sorghum, Rajendranagar, Hyderabad 500 030, Andhra Pradesh, India. Email: shyamprasad@nrcsorghum.res.in
[4]Email: sombhagat73@rediffmail.com
[5]Email: jkpath@rediffmail.com

Whiteflies, including the Spiralling Whitefly *Aleurodicus dispersus* Russell (Hemiptera: Aleyrodidae), pose a severe threat to many agricultural and horticultural crops, both in glass house and field conditions, due to their wide host range. This pest is native to the Caribbean Islands and Central America. The Spiralling Whitefly is now reported to occur in North America, South America, Asia, Africa, Australia and several Pacific Islands.

In India, it was first reported in 1993, in the Western Ghats, Kerala, Kanyakumari district, Tamil Nadu (Palaniswami *et al.* 1995). It later spread to parts of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh and Maharashtra (David and Regu 1995; Palaniswami *et al.* 1995; Ranjith *et al.* 1996; Mani and Krishnamoorthy 1996; Mani *et al.* 2000, 2001). The Spiralling Whitefly is believed to have been introduced into India from the Maldives and Sri Lanka (Ranjith *et al.* 1996) through plant material.

The pest can be easily recognized by the characteristic spiral arrangement of eggs on the lower lamina of leaves, which can be seen as a white patch. The nymphs and adults of Spiralling Whitefly suck the sap from the surface of leaves, stem and fruits. The copious white, waxy, flocculent material secreted by the nymphs, readily spreads to adjacent vegetation by wind. This sticky honeydew favours the growth

Table 1: Host range of *A. dispersus* in the South Andamans

Common name	Scientific name	Family
Guava	*Psidium gujava* Linn.	Myrtaceae
Banana	*Musa* sp. Linn.	Musaceae
Papaya	*Carica papaya* Linn.	Caricaeae
Red Gram	*Cajanas indicus* Spreng.	Leguminoseae
Curry Leaf	*Murraya koenigii* Sl.	Rutaceae
Cassava	*Manihot esculenta* Crantz	Euphorbiaceae
Brinjal	*Solanum melongena* L.	Solanaceae
Tomato	*Lycopersicon esculentum* Mill	Solanaceae
Chilly	*Capsicum annum* L.	Solanaceae
Lady's Finger	*Abelmoschus esculentus* (L.) Moench	Malvaceae
Canna	*Canna indica* L.	Cannaceae
Tulsi	*Ocimum sanctum* L.	Labiatae
Ageratum	*Ageratum conywides* L.	Compositae
Gerbera	*Gerbera jamesonii* H. Bolus ex J.D. Hook	Compositae

of the sooty mould fungus, *Capnodium ramosum* Cooke, which imparts a blackish colour to leaves, and reduces the photosynthetic area.

The Spiralling Whitefly is highly polyphagous and thrives on 481 host plants belonging to 295 genera and 90 families (Srinivas 2000). Though the Andaman Islands are completely cut off and remote from the Indian mainland, they are well connected by both air and sea. In the South Andamans, during July 2003, severe infestation of this pest was recorded for the first time on guava.

A preliminary survey conducted between July 2003-November 2003 indicated that *A. dispersus* attacks the following crops in South Andamans (Table 1). This pest is multiplying rapidly due to conducive climatic conditions prevailing in the South Andamans. The possible route of entry of this pest into the South Andamans is through mainland India with planting material imported by various agencies, as in case of the Citrus Blackfly *Aleurocanthus woglumi* Ashby. The Citrus Blackfly was introduced into the Andamans in 1990 along with 2000 budlings of Mandarin oranges brought by the State Agriculture Department from South Arcot, Tamil Nadu for distribution to farmers (Bhumannavar *et al.* 1991). Stringent quarantine measures at the ports (points of entry) on the Indian mainland, as well at these Islands, can prevent such unintended introduction, which could become a menace.

REFERENCES

Bhumannavar, B.S., M. Prashanth, H.R. Ranganath, T.K. Jacob & A.K. Bandyopadhyay (1991): Insects of agricultural importance in Andaman and Nicobar Islands. *CARI Res. Bull. 6*: 49.

David, B.V. & K. Regu (1995): *Aleurodicus dispersus* Russell (Aleyrodidae: Homoptera), a whitefly pest new to India. *Pestology 19*: 5-7.

Mani, M. & A. Krishnamoorthy (1996): Spiralling Whitefly and its natural enemies on guava in Karnataka. *Insect Environ. 2*: 12.

Mani, M., M.S. Dinesh & A. Krishnamoorthy (2000): Biological control studies on the Spiralling Whitefly *Aleurodicus dispersus* Russell (Aleyrodidae: Homoptera). Paper presented at the Entomological Congress 2000, Trivandrum, India. 5-9 November 2000.

Mani, M., R. Raghunatha & A. Krishnamoorthy (2001): Spiralling Whitefly *Aleurodicus dispersus* in Hyderabad. *Insect Environ. 7*: 82.

Palaniswami, M.S., K.S. Pillai, R.R. Nair & C. Mohandas (1995): A new cassava pest in India. *Cassava Newslett. 19*: 6-7.

Ranjith, A.M., D.S. Rao & J. Thomas (1996): New host records of the Mealy Whitefly, *Aleurodicus dispersus* Russell in Kerala. *Insect Environ. 2*: 35.

Srinivas, M.V. (2000): Host plants of the Spiralling Whitefly, *Aleurodicus dispersus* (Hemiptera: Aleyrodidae). *Pest Manage. Hort. Ecosyst. 6*: 79-105.

20. OCCURRENCE OF *LUMBRINERIS HARTMANI* (DAY 1953) (POLYCHAETA: LUMBRINERIDAE): A NEW RECORD FOR INDIAN WATERS[1]

R. Rajasekaran[2, 3] and Olivia J. Fernando[2, 4]

[1]Accepted July 10, 2004

[2]CAS in Marine Biology, Annamalai University, Parangipettai 608 502, Tamil Nadu, India.
[3]Email: sekar_10677@yahoo.co.in
[4]Email: cdl_aucasmb@sancharnet.in, olivia_cas@yahoo.com

Members of the Lumbrineridae, a family of the Order Eunicemorpha, are very homogeneous in their general external morphology. All of them have a simple prostomium; a long body not clearly portioned into regions and subbiramous parapodia without ventral cirri. They commonly burrow in sandy mud and have lost their head appendages. On the other hand, the anterior end of the prostomium is richly supplied with nerves while the jaws are very powerful. A few species of *Lumbrineris* are found under stones and in algal tufts.

In earlier studies the occurrence of *Lumbrineris tetraura*, *L. notocirrata*, *L. polydesma*, *L. heteropoda*, *L. simplex*, *L. impatiens*, *L. bilabiata*, *L. latreilli* and *L. pseudobifilaris* has been recorded from diversified environments along the east and west coast of India (Fauvel 1953; Parulekar 1971; Hartman 1974; Antony and Kuttyamma 1983; Rao 1998; Misra *et al.* 1984; Srikrishnadhas *et al.* 1987; Misra 1995; Sunder Raj and Sanjeeva Raj 1987; Pillai 2001).

During the present study three specimens of *Lumbrineris hartmani* were collected from the sand beneath seagrass beds in the intertidal area of Krusadai Island (9° 14' N, 79° 12' E) in the Gulf of Mannar on August 12, 2001. This island has well-developed coral reefs and extensive seagrass beds. The sediment samples collected were sieved through a 0.5 mm sieve, and the animals retained were stored in 70% alcohol for further studies. All drawings were made using Camera Lucida.

All three specimens collected were incomplete, with a maximum length of 70 mm for 203 segments. Prostomium is depressed, conical (Fig. 1a); eyes and nuchal organ are absent. Peristomium is composed of two apodous segments; it is as